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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/809,064	03/25/2004	Scott R. Conley	87610AEK	7002

7590

12/06/2006

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EXAMINER
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KUGEL, TIMOTHY J

ART UNIT	PAPER NUMBER
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1712

DATE MAILED: 12/06/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/809,064

Applicant(s)

CONLEY ET AL.

Examiner

Timothy J. Kugel

Art Unit

1712

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 06 November 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-27 and 30 is/are pending in the application.
- 4a) Of the above claim(s) 2, 7, 11, 14, 16, 19, 20, 22 and 23 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) 1, 3-6, 8-10, 12, 13, 15, 17, 18, 21, 24-27 and 30 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☒ Claim(s) 1-27 and 30 are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### **DETAILED ACTION**

1. Claims 1-27 and 30 are pending as amended on 6 November 2006, claims 28, 29 and 31-33 being cancelled. Claims 2, 7, 11, 14, 16, 19, 20, 22 and 23 are withdrawn from consideration.
2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

### ***Election/Restrictions***

3. This application contains claims 2, 7, 11, 14, 16, 19, 20, 22 and 23 drawn to a species nonelected in the response filed 20 July 2005. A complete reply to the final rejection must include cancellation of nonelected claims or other appropriate action (37 CFR 1.144) See MPEP § 821.01.

### ***Response to Amendment***

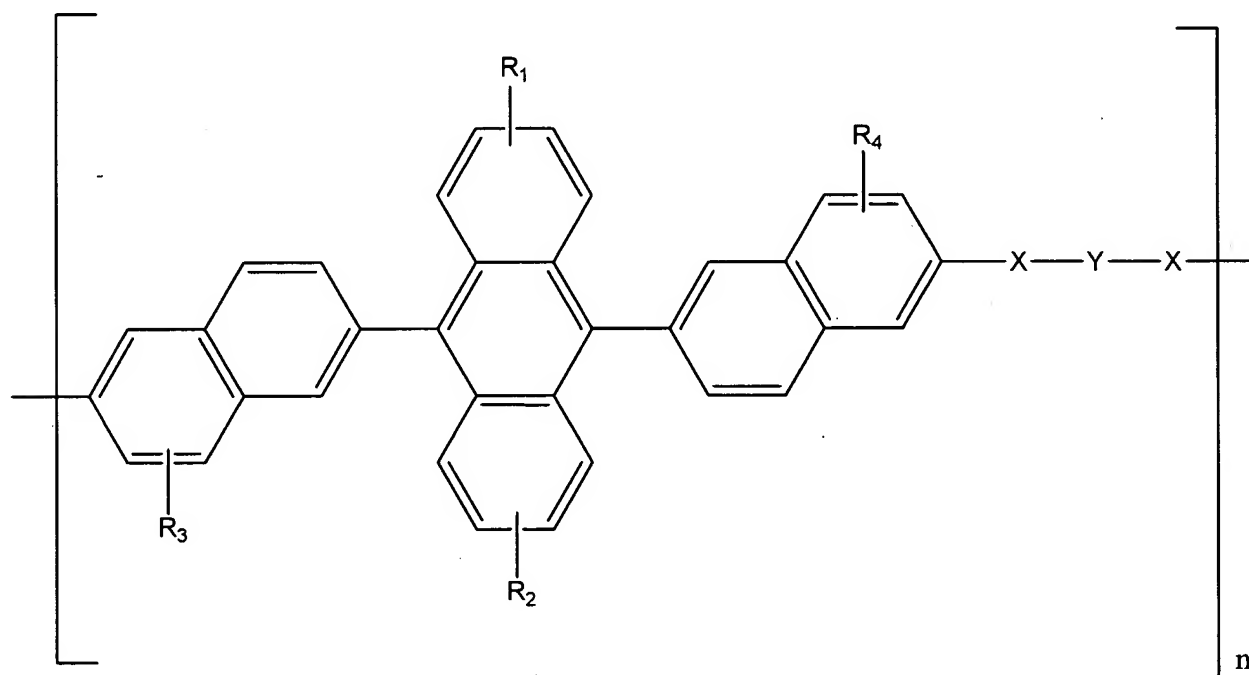
4. Applicant's amendment, filed 6 November 2006, with respect to the term 'electroluminescent device' has been fully considered and are corrective.

The objection to claims 1, 3-6, 8-10, 12, 13, 15, 17, 18, 21, 24-27 and 30 has been withdrawn.

***Claim Rejections - 35 USC § 102 and/or 35 USC § 103***

5. Claims 1, 3-6, 8-10, 12, 13, 15, 17, 18, 21, 24 and 30 stand rejected under 35 U.S.C. 102(b) as being anticipated by or in the alternative under 35 U.S.C. 103(a) as being unpatentable over US 6,361,887 (Shi hereinafter).

Shi teaches electroluminescent devices which emit blue light (Column 1 Lines 11-25) comprising a light emitting layer including an anthracene material of the following structure



—which reads on the anthracene material of claims 1, 3-6, 8, 10, 12, 13, 15, 18, 21 and 30 when one of R<sub>1</sub> or R<sub>2</sub> is an aryl group and the other of R<sub>1</sub> or R<sub>2</sub> and R<sub>3</sub> and R<sub>4</sub> are hydrogen atoms—(Abstract, Column 2 Lines 4-41) and wherein perylene dyes may be used as a dopant in an amount on the order of a few molar percent or less (Column 38 Line 56 – Column 39 Line 21).

Further, one of ordinary skill in the art would immediately envisage the anthracene material of claims 9, 17 and 24 when the R group in the 2 position is a monocyclic phenyl group, a naphthyl group or a biphenyl group, or the methyl phenyl group of Inv-1 in claim 24 (Abstract, Column 2 Lines 4-41).

6. Claims 25-27 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Shi as applied to claims 1, 3-6, 8-10, 12, 13, 15, 17, 18, 21, 24 and 30 above in view of US Patent Application Publication 2002/0027416 (Kim hereinafter).

Shi teaches electroluminescent devices which emit blue light (Column 1 Lines 11-25) comprising a light emitting layer including an anthracene material of the structure shown above—which reads on the anthracene material of claims 1, 3-6, 8, 10, 12, 13, 15, 18 and 30 when one of  $R_1$  or  $R_2$  is an aryl group and the other of  $R_1$  or  $R_2$  and  $R_3$  and  $R_4$  are hydrogen atoms—and wherein perylene dyes may be used as a dopant in an amount on the order of a few molar percent or less, and further, one of ordinary skill in the art would immediately envisage the anthracene material of claims 9, 17 and 24 when the R group in the 2 position is a monocyclic phenyl group, a naphthyl group or a biphenyl group, or the methyl phenyl group of Inv-1 in claim 24 as detailed above.

Shi does not disclose expressly a device with second light emitting layer comprising rubrene to provide white light.

Kim discloses a multi-layer electroluminescent device including a layer comprising rubrene to produce white light (¶0097).

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to include the rubrene containing layer of Kim in the electroluminescent devices of Shi. The motivation to do so would have been to provide a layer that prevents lowering of luminous efficiency (Kim ¶0013).

### ***Response to Arguments***

7. Applicant's argument, filed 6 November 2006, particularly that the anthracene material taught by Shi—when X is a perylene group—fails to anticipate or obviate claim 1—which limits the aromatic carbocyclic groups to up to 12, have been fully considered and are persuasive in part. Shi's anthracene material as shown above—when X is perylene—has at least 13 rings and therefore fails to anticipate or obviate claim 21 in itself; however, Shi teaches that the host material may be doped with a perylene dye (Column 38 Line 56 – Column 39 Line 21) and the structure shown above reads on claims 1, 3-6, 8-10, 12, 13, 15, 17, 18, 24 and 30 as those structures have 8-10 aromatic carbocyclic groups.

Applicant's further argument—that Shi fails to anticipate or obviate the limitation "including a light emitting material in an amount of up to 15 vol.% of the host" has been fully considered but is not persuasive. Shi teaches that perylene—and other—dyes may be used as a dopant in an amount on the order of a few molar percent or less (Column 38 Line 56 – Column 39 Line 21).

***Conclusion***

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Timothy J. Kugel whose telephone number is (571) 272-1460. The examiner can normally be reached 6:00 AM – 4:30 PM Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy Gulakowski can be reached on (571) 272-1302. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

10. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for

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published applications may be obtained from either Private PAIR or Public PAIR.

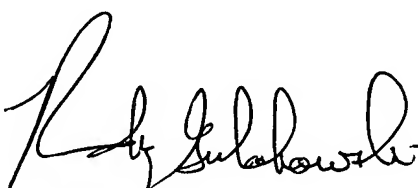
Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free).

TJK  
Art Unit 1712



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